

Funding: What You Need to Know About Grant Writing

Hundreds of thousands of grant awards are made annually by government agencies, foundations, private sources and, increasingly, from the business sector. Most awards are made to universities and research institutions for the purpose of supporting scholarly work while a smaller number are awarded to community organizations, businesses and individuals. Many grant awards are made with the specific purpose of developing new products with high commercial potential such as prescription drugs, hardware/software, and engineering applications, while other grants support basic research across a broad spectrum (e.g., chemistry, biology, physics). A smaller pool of grant awards supports a variety of scholarly work including publishing, program support, training, travel, community outreach, and student research.

The good news is that with a set of clear goals and objectives and some technical assistance from your home institution's business or sponsored research office, most faculty members can be successful grant writers. The following information contains a brief introduction to grantsmanship.

The first step is to read the research section of the faculty manual. It is critical that you determine if you are allowed to be a principal investigator (PI; e.g., tenure track, tenured faculty). The PI is the person who has sole responsibility for the technical conduct of the award. Some institutions allow non-tenure track lecturers to also participate as a PI.

Note: Be sure you understand your institution's regulations and policies before you initiate the grant writing process.

Why Write a Grant?

Grant awards provide scarce resources not available at many academic institutions. Using grant funds, you can participate in research projects which may lead to new discoveries in your field. Program projects can support the development of new teaching methods, delivery of much needed community services, or an increase in student retention and graduation rates. Other awards provide support for the purchase of much needed research and classroom equipment, software, computers, books, and travel to conferences. Many awards provide support for undergraduate students who can participate

in meaningful research under the tutelage of their major professor. Grant awards also provide release time from teaching, summer salary, and are, in most institutions, considered as a factor in the promotion and tenure process.

What Will the Grant Award Cover?

While there is wide variation in acceptable costs, most research grant awards will pay for release time (e.g. 25% = one course) and summer salary for the PI and salary for other personnel such as Co-Principal Investigators, technicians, and students. In addition to salary, awards will cover a percentage of fringe benefits for all working on the project. Your human resources department can assist you in determining these costs. Other costs can include travel, supplies and materials, equipment, consultants, contractual agreements, participant costs, reprint costs and other items as specified in the grant application package.

An additional budget item is the indirect cost (administrative cost) which is a percentage of the total cost (in some cases excluding equipment). In other cases, the indirect cost is calculated on salary, wages, and fringe benefits only. Your sponsored programs or business office will provide you with the established rate for your university as determined by the federal government.

In-House Help

Before you place your fingers on the keyboard, you need to determine what you hope to accomplish and whether you require external funding. Start-up projects such as testing the validity of data collection instructions, gaining access to a research population or designing a research laboratory may not require a sponsored grant. Many institutions have small start-up grants (e.g., \$2,500) that allow you to pilot test your ideas, develop the background and rationale for a future external proposal, publish preliminary data or travel to an important professional conference. Visit your sponsored research office to determine if such funds are available and how you can apply. If no such funding is available, the next question should be "what services are provided by the university for the new grant writer?"

Working with Your Sponsored Programs Office

Most universities support the services of grants managers who can direct you to funding sources. Some schools have access to commercially available databases such as IRIS or InfoED that support keyword searches of tens of thousands of funding sources. In addition to locating a funding source, other services may be available such as budget development, editorial services, duplication and mailing or electronic submission of the application.

Additionally, you will want to understand the signatory process and the timeline for getting your proposal to the funding source by the deadline (e.g., 5 business days prior to submission of an application). With the introduction of electronic grant submission, universities are establishing guidelines to ensure proper processing. This process may mean that your sponsored research office may need to establish an account with a funding agency (e.g., National Science Foundation) for you before you can access application forms. The staff of sponsored research offices is one of your most powerful allies in the process of securing external funds.

Sign-off and Electronic Submission

Most institutions have a formal process for routing an application for internal review and approval. Typically, your application will be reviewed by your supervisor, the office of sponsored programs or business office and, perhaps, other administrators. Generally, the process takes a few days and may result in a need for clarification or correction.

Many applications must be submitted electronically by an official university signatory. Most federal grant applications are submitted using grants.gov. Your institution must register with the government prior to submitting an application on-line. Because of problems with these systems, you should give yourself some extra time. This strategy will allow the official signatory the opportunity to seek assistance from the grants.gov help desk.

Cost Sharing and Matching Costs

Some funding agencies require that the applicant organization pay a portion of the cost of the project. Before you start an application with such a requirement, it is important that you determine the availability of funds from your home institution. Unfortunately, this requirement can be a barrier to funding.

Some universities provide matching and cost sharing through their offices of institutional advancement (e.g. gifts, donations). Other universities allow the PI to use university funds to pay their salary as the source of matching funds. Note: In general, the library, the information technology department, classrooms, laboratories, heat, light and other university services cannot be used as cost share or matching funds as these elements are used to support the indirect cost calculation for your institution.

Working with Collaborators

Many types of grants require collaborators or consultants. In general, most universities do not allow within-house consultants primarily because grant money cannot be used to increase academic salaries (with the exception of summer salaries or moving from a part-time position to a full time position). Be sure to determine the process your institution uses and what formal agreements may need to be secured prior to entering into discussion with others outside of your campus.

Finding Funding Opportunities

Your sponsored research office may provide access to commercial services, training in the use of the more complicated internet sites or even conduct a search for you. The following sites provide access to most funding sources. A quick tour of funding sites can be found using Google and Google Scholar.

grants.gov

The federal government built an internet-based system that lists all federally available grant opportunities using key word search strategies. A useful tutorial is available. This is also the site used by your sponsored research office when submitting most federal grant applications. You do not need permission to access application material, however, only the designated signatory for your campus can submit the application using this system. Unfortunately, this system is complex and there is a steep learning curve.

FedBizOps

Like grants.gov, this internet-based system provides access to all contract related information for all federal agencies. Unlike grants that are considered "best level of effort," contracts are legally binding instruments that require delivery of services and products on time

and within budget. While contracting is a powerful way to support projects, it comes with regulations and requirements that can be a bit daunting to the novice.

The Foundation Center

The Center provides access to opportunities supported by not-for-profit organizations (e.g., Bill and Melinda Gates Foundation). Located at foundationcenter.org, the Center supports information on more than 600 foundations. The Center offers many outstanding training programs and publications for the grant writer.

The Council on Foundations

The Council bundles givers into a collective that supports philanthropy. It does not award grants, rather it provides a center for locating information on grant givers located at www.cof.org.

SPIN-Plus

The commercial service allows you to access national and international government and private funding sources. Its Smarts module allows you to match your profile with funding opportunities and provide updates by sending information to your email account. SPIN is found at <http://ris.ucc.ie/Products.stm#spin>.

Community of Science

Located at <http://www.cos.com/services/>, the Community of Science offers access to over 26,000 opportunities, plus a funding alert that will send you a weekly customized notice of new opportunities. Individual membership is free.

Sponsored Research Information

Many smaller colleges and universities cannot afford the staff and resources necessary to support the needs of the entire faculty. By taking advantage of large research university web sites, you can access important information and resources. For example, Iowa State University provides weekly bulletins of funding opportunities by research field located at <http://www.vpresearch.iastate.edu/OSP/Maillogs.html> and Harvard University provides step-by-step instruction in proposal and budget development located at http://vpf-web.harvard.edu/osr/proposal/proposal_main.shtml.

Obtaining Assistance With the Proposal

The Formal Proposal

The format and content of any proposal or application will necessarily vary with the requirements of the potential sponsor. An unsolicited grant proposal will differ significantly from a proposal submitted in response to a competitive bidding situation, while new, non-competitive continuations or continuation proposals will differ from each other. Because of the unique character of application, it is difficult to give specific cookbook-like directions.

Some sponsoring organizations provide instructions for proposals, others require the use of pre-printed forms, and some have prescribed rules. Applications or proposals submitted to some sponsors must meet deadlines while other sponsors will accept proposals at any time of the year. When there is a specified date and time, you must meet the deadline or risk the almost certain reality that your application will be rejected.

Grant proposals may be submitted concurrently to several organizations; a statement of concurrent submission should be included in such cases stating the names of organizations to which the proposal was submitted. For most federal grants, this procedure is a requirement. For applications to non-federal sponsors, it is recommended that each proposal have as little overlap as possible. Most areas of research are sufficiently specialized that reviewers tend to pick-up on applicants who are shopping for a funding source. This practice can result in negative consequences.

For samples, examples, and tips on how to improve the body of your application, try one or more of the following sites:

Grant writing tips by Sylvie McGree is an older site, but it still provides a clear and focused presentation on grant writing basics found at <http://www.seanet.com/~sylvie/grants.htm>.

Tips for grants to conduct biomedical research provided by the National Institutes of Health (NIH) can be found at http://grants.nih.gov/grants/grant_tips.htm.

Help with community grants provided by Lone Eagle can be found at <http://lone-eagles.com/granhelp.htm>.

The best site for project grants can be found at <http://www.epa.gov/ogd/recipient/tips.htm>. Even if the environment is not your field, EPA provides an excellent guide to project grants, in general.

Tips from James Madison University can be found at <http://www.jmu.edu/sponsprog/writingtips.html>.

A Principal Investigators Manual can be found at www.umes.edu/osp.

Assurances

While your institution will have to certify that civil rights protections, codes of ethical conduct, and other assurances are in place, you, as the PI, will have to determine if the following assurances apply to your proposed efforts. Most institutions have institutional review boards or committees that conduct the reviews according to a published set of procedures. You should contact the appropriate committee when planning your application to determine how and when you need to apply for approval.

Human Subjects Protection

NIH serves as the lead federal agency charged with monitoring the protection of subjects involved in research including educational and social research. For additional information, access NIH's Office for Human Resource Protection at <http://www.hhs.gov/ohrp/policy>.

Institutional Animal Use and Care

The NIH is also involved in oversight of research involving animals. For additional information, access NIH's Office of Laboratory Animal Welfare at <http://grants.nih.gov/grants/olaw/olaw.htm> and the Office of Animal Care and Use at <http://oacu.od.nih.gov>.

Biosafety

NIH also provides guidance to researchers involved in research when biosafety concerns exist. For additional information, access guidelines at http://www4.od.nih.gov/oba/rac/guidelines_02/NIH_Guidelines_Apr_02.htm.

Lobbying

Applicants to federal projects must disclose lobbying efforts that may influence the outcome of review. Standard forms are provided in the grants.gov application kit.

Managing an Award

The Funding Mechanism

Most awards are cost reimbursable mechanisms. Your institution will bill the sponsoring agency or organization based on actual expenses incurred and will maintain a record of expenses for up to seven years after the closeout of an award. Federal grant awards are governed by a set of regulations published by the Office of Management and Budget. Circulars A-21 and A-33 are the regulations that instruct universities on how they can spend and report on federal awards. Your office of sponsored research or the business office will closely follow these regulations and assist you with budget management to ensure institutional compliance. Failure to comply with these regulations can result in suspension or debarment from participation in federal programs. Many other sponsoring organizations follow the general policies of the federal government. A small number of grants from foundations and private sector may be forward funded, that is, you receive the money up front with few reporting requirements. These awards tend to be small and time limited in scope. Most awards will have terms and conditions that restrict spending and serve to guide you and your institution. Knowledge of these conditions and the general requirements for performance and compliance will make your life less complicated and the project run more smoothly.

Reporting

Most grant awards require you to report on the technical aspects of your project. Failure to comply with this requirement could result in termination of the award. Financial reports are done by an accountant in collaboration with the office of the comptroller or chief financial officer.

No-Cost Extension and Closeout

In some cases, you may experience a delay in start-up of a project and need additional time to complete a project or set of experiments. Most sponsoring organizations have a process for awarding a no-cost extension for up to one year after the original closeout date. Each sponsor may differ when it comes to how the process works. The best advice is to contact the sponsor and ask about their procedures well ahead of time or contact your sponsored research office.

Additional Resources

Federal assistance – www.grants.gov.

Grants Information Center - <http://grants.library.wisc.edu/organizations/proposalwebsites.html>.

Guide for Writing a Funding Proposal - <http://www.learnerassociates.net/proposal/links.htm>.

GrantSource Library - http://research.unc.edu/grantsource/proposal_writing.php.

Grant Writing Resources - <http://www.arsi.org/view.asp?itemname=Grant+Writing+Resource&db=grantwriting&collab=ut>.

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